UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,728	02/07/2002	Chester L. Schuler	IMM043E	2651

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EXAMINER
KUMAR, SRILAKSHMI K

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

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<tr><td>10/072,728</td><td>SCHULER ET AL.</td></tr>
<tr><td></td><td>Examiner</td><td>Art Unit</td></tr>
<tr><td></td><td>Srilakshmi K. Kumar</td><td>2629</td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*20 August 2007*</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-25 and 27-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-25 and 27-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>*8/20/07*</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

The following office action is in response to the request for reconsideration, filed on August 20,

2007. Claims 19-25, 27-33 are pending.

Information Disclosure Statement

The information disclosure statement filed August 20, 2007 fails to comply with 37 CFR

1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent

literature publication or that portion which caused it to be listed; and all other information or that

portion which caused it to be listed. It has been placed in the application file, but the information

referred to therein has not been considered.

The US Patent Documents in the IDS have been considered.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claim 19-25, 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

McIntosh (US 5,103,404) in view of Applicant's Admitted Prior Art (AAPA).

In reference to claims 19, 25, 31 and 33, McIntosh teach a device comprising a moveable

member (Fig. 2); an actuator coupled to the moveable member (col. 4, lines 37-41), the actuator

being configured to output haptic feedback (col. 4, lines 37-41), the haptic feedback including a

modulating force simulating a plurality of electronically defined stop positions (col. 2, lines 49-

54, col. 3, lines 1-30); a data storage component configured to store torque data associated with

the haptic feedback (col. 10, lines 46-53), the torque data being associated with a plurality of

force profiles (col. 2, lines 49-54), the torque data being provided by a host computer (col. 10,

lines 24-25) based on a selection of at least one force profile from the plurality of force profiles

(col. 10, lines 24-25); a sensor coupled to the moveable member (col. 7, lines 50-57), the sensor

being configured to send position information associated with a position of the moveable

member (col. 7, lines 50-57); a local controller coupled to the data storage component (RAM and

ROM) and the actuator (Fig. 10), the local controller being configured to be in communication

with the host computer (col. 10, lines 24-25); the local controller being configured to send a

control signal to the actuator, the control signal being based on data values associated with a host

software application of the host computer, the haptic feedback simulating a plurality of

electronically defined stop positions being associated with the position information and the host

software application (in column 2, lines 49-54, McIntosh teaches that the "the motion of (the)

motor, is determined by either operator controlled movements of the control motor or

preprogrammed motion instructions" i.e. a force profile.   More specifically, he teaches "the

manipulator motor is driven to its desired position as determined by the control motor, or in

some cases, preprogrammed instructions" and "that the system provides a readily programmable

degree of coupling between the two motors" in column 3, lines 1-30).

McIntosh does not disclose wherein the haptic feedback including a modulating force

simulating a plurality of electronically defined stop positions. Applicant's Admitted Prior Art on

page 2, line 17-page 3, line 5 teach where it is well known in the art where haptic feedback

devices have control wheel that exhibit tactile responsiveness, such as detents or clicks as they

are rotated, wherein each click is a modulating force simulating a plurality of electronically

defined stop positions, such that each click corresponds to one frame. Therefore, it would have been obvious to include in McIntosh the modulating force simulating a plurality of electronically defined stop positions as taught by AAPA, as the stop positions enable the user to determine frame rates as discussed on pages 2 and 3 of applicant's specification.

In reference to claim 20, McIntosh teaches the actuator being a first actuator (first motor), the device further comprising a second actuator (second motor), the local controller being configured to output the control signal to the first and second actuators, the first and second actuators configured to produce the haptic feedback (column 2, lines 42-43, the first and second actuators are taught by the use of the two motors which further provide haptic feedback the use of two motors for performing feedback).

In reference to claim 21, McIntosh teaches wherein the data storage component is configured to receive and store a plurality of torque value from the host computer (in col. 10, lines 5-8, where the data storage component is capable of storing and recalling information, and in col. 4, lines 37-41, where different levels of selected forces are associated with different types of feedback sensations).

In reference to claims 22 and 32, in column 4, lines 37-41, McIntosh teaches wherein each of the torque values is associated with a different tactile sensation (in col. 10, lines 5-8, where the data storage component is capable of storing and recalling information, and in col. 4, lines 37-41, where different levels of selected forces are associated with different types of feedback sensations). .

In reference to claims 23 and 28, as shown in figure 10, McIntosh teaches the data storage component is external to the local controller (col. 10, lines 5-8).

In reference to claims 24 and 29, as shown in figure 10, McIntosh does not explicitly state wherein the data storage component is resident on the local controller. McIntosh teaches the RAM and ROM components are external to the microprocessor (item 61). However, Examiner takes Official Notice that the data storage component is resident on the local controller is well known in the art. It would have been obvious for one skilled in the art to include a controller with an internal storage component in order to reduce the number of parts needed to fabricate the invention. This feature of where the RAM and ROM are internal to the processor is evidenced by Sanderson (US 4,768,412) in col. 10, lines 56-66 where a microprocessor is taught to internally include the RAM and ROM.

In reference to claim 27, McIntosh teaches that he moveable member is a portion of a actuator (column 4, lines 37-41).

In reference to claim 30, McIntosh's storage component (figure 10, item 65) receives data from a remote processor (item 26).

Response to Arguments

3.   Applicant's arguments filed August 20, 2007 have been fully considered but they are not persuasive.

With respect applicant's arguments in regards to applicant's arguments of where in the previous office action it is asserted that McIntosh doesn't teach wherein the haptic feedback including a modulating force simulating a plurality of electronically defined stop positions, and then asserted that McIntosh does teach this feature, examiner, respectfully, disagrees. McIntosh teaches in col. 2, lines 49-54, col. 3, lines 1-30 where "the motion of (the) motor, is determined by either operator controlled movements of the control motor or preprogrammed motion

instructions" i.e. a force profile.   More specifically, he teaches "the manipulator motor is driven

to its desired position as determined by the control motor, or in some cases, preprogrammed

instructions" and "that the system provides a readily programmable degree of coupling between

the two motors" in column 3, lines 1-30, which corresponds to the limitation of the local

controller being configured to send a control signal to the actuator, the control signal being based

on data values associated with a host software application of the host computer.   What McIntosh

fails to teach is the limitation of including a modulating force simulating a plurality of

electronically defined stop positions.   In order to remedy McIntosh's deficiency, applicant's

admitted prior art (AAPA) teaches on page 2, line 17-page 3, line 5 teach where it is well known

in the art where haptic feedback devices have control wheel that exhibit tactile responsiveness,

such as detents or clicks as they are rotated, wherein each click is a modulating force simulating

a plurality of electronically defined stop positions such that clicks are felt based on electrical

input and electrical contacts, such that each click corresponds to one frame.   Further, the haptic

feedback device with its mechanical components, must have electrical signal generation, thus

teaching electronically defined stop positions.   With respect to applicant's arguments in regards

to applicant's admitted prior art not teaching the force feedback "clicks", examiner respectfully,

disagrees.   In the applicant's admitted prior art (Fig. 1, pages 2-3), it is shown where the actuator

wheel is clicked in a haptic feedback manner.   Further, in applicant's specification and drawings

(Figs. 7-10 and pages 19-23), it is clearly shown where the claimed actuator is a wheel, which

clicks in a haptic feeback manner.   Thus the applicant's admitted prior art of Fig. 1 and pages 2-3

teach the claimed limitations.   With respect to the combination of McIntosh and AAPA, it would

have been obvious to include the modulating force simulating a plurality of electronically

defined stop positions as taught by AAPA, as the stop positions enable the user to determine

frame rates as discussed on pages 2 and 3 of applicant's specification. Thus, the prior art of

McIntosh combined with AAPA teach the claimed limitations. Thus, the rejection is maintained

and made FINAL.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Srilakshmi K. Kumar whose telephone number is 571 272 7769.

The examiner can normally be reached on 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Sue Lefkowitz can be reached on 571 272 3638. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Srilakshmi K Kumar
Examiner
Art Unit 2629

SKK
October 23, 2007

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER